

PAVING OUR FUTURE



Ennis Joslin Road Extension
(Holly to Williams)
(Bond 2014)

Engineering Letter Report (FINAL)

Prepared For:

City of Corpus Christi
Capital Programs
P.O. Box 9277
Corpus Christi, TX 78401



City Project No.
E15109



Submitted By:



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UE Job No. 08896.B5.04

Engineering Letter Report

section), then taper to the standard section. The standard section is necessary to facilitate traffic flow to the existing Ennis Joslin Road south of Holly Road.

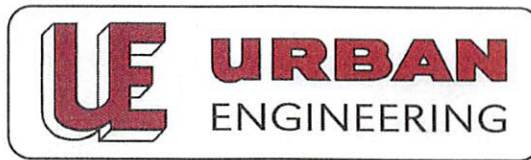
Two distinct structural pavement section designs will be presented by RETL in the geotechnical engineering report.

Flexible pavements are typically comprised of sub-base, base and asphaltic concrete material layers. This type of section is relatively inexpensive and can be used in a variety of applications. Due to its flexible properties, it has traditionally been used in areas where existing soil conditions can be variable and have potential for movement. The application of a flexible pavement section to the conditions encountered for Ennis Joslin Road is appropriate. However, flexible pavements do require regular maintenance to achieve their full service life.

Rigid pavement sections consist of a sub-base and concrete paving. This type of section is very durable and requires less long term maintenance than do similar flexible pavements. However, its initial costs are generally higher.

We recommend contract documents be based on a flexible pavement section. The existing Ennis Joslin Roads, at the north and south ends of the project are flexible pavement sections. Therefore, pavement section types will be consistent and demonstrate continuity throughout the various projects within this area of town.

Cycling routes were analyzed with the intention of providing a cycling path at a reasonable cost. Several types of paths were analyzed; including: bike lanes, cycle tracks, multi-use sidepaths, and relying on future projects to provide an off-site path for cyclists in the area. A multi-use sidepath provides significant cost savings (+/- \$100,000) over bike lanes, and separates cyclists from the vehicular street traffic. The Multi-use sidepath was coordinated with the MPO and Capital Programs.



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Oct. 2015

AMENDMENT
ENGINEERING LETTER REPORT
ENNIS JOSLIN ROAD EXTENSION #E15109

The Engineering Letter Report (ELR) recommends use of flexible pavement section to retain continuity with existing sections at each end of project. Additional factors supporting this recommendation are fact that geometry proposed may change in future rehabilitation work and flexible pavements provide better potential for expansion than do rigid pavements. Finally, cost is a significant factor driving this project and flexible pavements have a significantly lower upfront cost and similar long term cost. Attached is an analysis comparing initial cost factors associated with flexible and rigid pavements for this project.

Murray F. Hudson, P.E.
Urban Engineering

**Typical Pricing Differences between Concrete (Rigid) and
Hot-Mix (Flexible) Type Pavements in City of Corpus Christi**

Concrete Pavement Pricing

Item	Unit Price	Quantity	Unit	Extension	Unit Cost @ \$17,500 SY
8" Conc.	\$ 8.00	157,500	SF	\$ 1,260,000.00	
1" TY D	\$ 10.00	17,500	SY	\$ 175,000.00	
6" Base	\$ 14.00	18,700	SY	\$ 261,800.00	
12" Subgrade	\$ 4.00	18,700	SY	\$ 74,800.00	
Block Curb	\$ 4.00	5,314	LF	\$ 21,256.00	
Excavation	\$ 8.00	15,000	SY	\$ 120,000.00	
				<u>\$ 1,912,856.00</u>	\$109.31/SY

Flexible Pavement Pricing

Item	Unit Price	Quantity	Unit	Extension	Unit Cost @ \$17,500 SY
Excavation	\$ 10.00	15,000	SY	\$ 150,000.00	
2" TYD	\$ 11.00	17,500	SY	\$ 192,500.00	
4" TY B	\$ 18.75	17,500	SY	\$ 328,125.00	
Prime Coat	\$ 0.50	17,500	SY	\$ 8,750.00	
14" Base	\$ 27.00	18,700	SY	\$ 504,900.00	
Geogrid	\$ 3.45	18,700	SY	\$ 64,515.00	
12" Subgrade	\$ 5.00	18,700	SY	\$ 93,500.00	
C & G	\$ 21.00	5,314	LF	\$ 111,594.00	
				<u>\$ 1,453,884.00</u>	\$83.08/SY

Premium for Concrete Pavement vs. Flexible Pavement is \pm 25%